

Thudichum and Dupré – brothers-in-law

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This paper relates the story of two German scientists who came to England in the early nineteenth century and played an important role in the application of chemistry to medicine. When they left Germany, the country was a geographical rather than a political entity and forms of unification were being debated. The historical and personal background of these two men will be described but no attempt will be made to evaluate their scientific work.

Ludwig Thudichum (1829–1901)

Johann Ludwig Wilhelm Thudichum was born in Büdingen in the Grand Duchy of Hesse on the 27 August 1829, the eldest son of Georg Thudichum, who was a Minister of the Reformed Church and Director of the Gymnasium in Büdingen. He was also the translator of the works of Sophocles. In addition, he cultivated vines on a piece of his land and was impressed with the quality of the wine produced. The discovery of a spring led him to believe that the water might possess valuable properties. The famous chemist Justus von Liebig (1803–73) analysed the spring water and concluded that the wine was more

valuable than the water. However, the great chemist's visit made an impression on Ludwig.

Ludwig had two brothers and three sisters. One brother, Karl, founded a boy's school, La Châtelaine, in Geneva. The building subsequently became the headquarters of the International Red Cross. Dr Luc Thudichum, Karl's grandson, was until recent retirement, in medical practice in Geneva.

University life

Ludwig matriculated in 1847 at the University of Giessen with the intention of studying medicine. At Giessen, he continued to be inspired by Liebig. He also spent a year at Heidelberg University. He graduated MD at Giessen University, his thesis being on fractures of the upper end of the humerus.

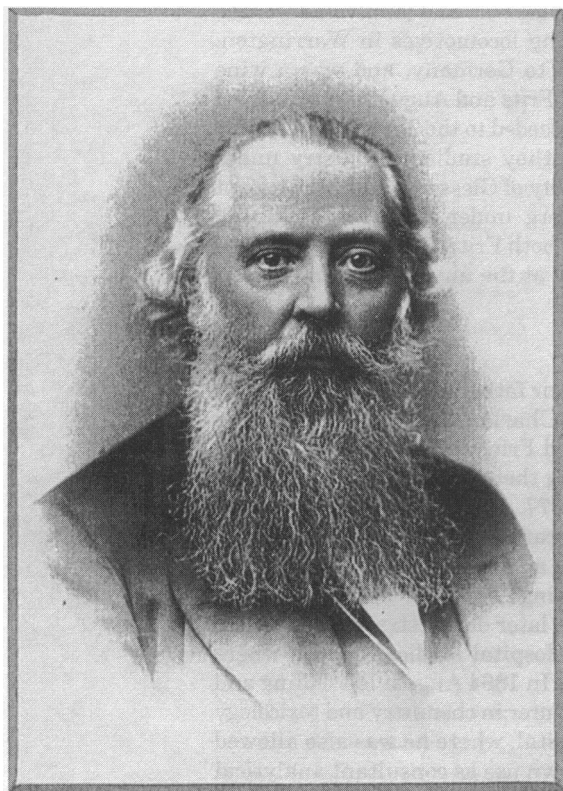
Why did Thudichum leave Giessen for England?

In 1853 Thudichum failed to obtain the vacant post in pathology at Giessen and decided to emigrate to England. He suspected a political bias against him on account of his having espoused the 1848 Revolutionary Cause. Retrospectively, in a letter to Rudolf Virchow (1821–1902)¹ he mentioned that in 1853 he had been banned from the Hall of the University of Giessen, and that he connected this with his having served in 1850 as voluntary surgeon at Field Hospital No. 4 at Kiel during the military incident involving the relationship of Schleswig-Holstein to the State of Denmark.

A romantic incentive to his going to London was not lacking. He had been introduced to his third cousin Charlotte and her brothers, Friedrich Wilhelm and August Dupré. In the Thudichum family history² there is a record of a visit by Charlotte from Giessen by stage coach during 1849 to the Thudichum household in Büdingen; she was there described as Ludwig's betrothed. She and her father and step-mother had already settled in London before 1853, the year when Ludwig came to London.

Ludwig, aged just under 25 years, and Charlotte, aged over 25 years, were married in London on 15 May 1854. They lived all their married life in Kensington. In 1854, he qualified as MRCS and in 1856 was appointed Physician to St Pancras Dispensary. From 1858 to 1863 he lectured in Chemistry at the short-lived private medical school in Grosvenor Place. In 1860 he became MRCP. From 1865 to 1871 he was Director of the newly founded chemical and pathological laboratory at St Thomas' Hospital Medical School. In 1878 he was elected FRCP. Thudichum's professional career is outlined in his obituary in the *BMJ*³. He was also engaged in private practice.

His public appointments involved teaching and research in chemistry, but he also set up his own laboratory in his private house. His work impressed John Simon (1816–1904), then Principal Medical Officer to the Privy Council, who in 1864 obtained



J L W Thudichum

Figure 1. J L W Thudichum, 1829–1901

Government research grants for Thudichum to undertake a series of researches to promote and improve identification of disease. Results were published (until 1882) as appendages to reports of the Medical Officer of the Privy Council and later the Local Government Board. These grants and private practice enabled Thudichum to meet the expenses of his own laboratory as well as those of a large family. Eight children were born between 1855 and 1868, the second child dying in infancy.

Thudichum's work

Urine. Thudichum's book on the analysis of urine was published in 1858⁴, and his essay on Urochrome⁵ won him the Hastings Gold Medal of the British Medical Association in 1864⁶.

Gallstones. His treatise on gallstones was published in 1863⁷. He isolated bile pigments from gallstones and contributed to their classification. The first chapter consisted of 48 pages on a digest of historical literature on the subject.

Brain. His research was on Phospholipids. Cephalin and Sphingomyelin were so named by him. A treatise published on the chemical constitution of the brain was published in 1884⁸. As he stated in the preface, the work is a systematic consolidation of all researches which had been laid before Parliament in the annual reports of the Medical Officer of the Privy Council and Local Government Board, respectively. The rationale of Government financial support for research on the brain was that delirium and coma were prominent symptoms of cholera, typhoid and other prevalent infectious diseases. It was considered that the chemical analysis of the brain might be a sound basis for studying the underlying causes of these symptoms and their treatment.

Death of Thudichum and later assessment

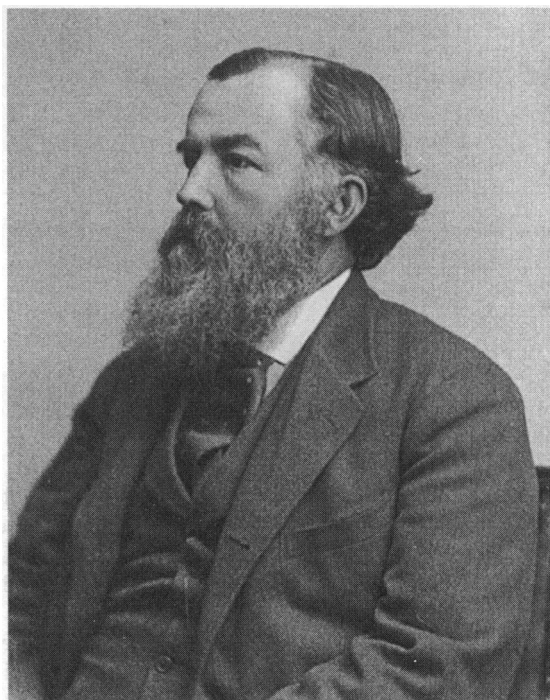
Ludwig Thudichum died at his residence at 11 Pembroke Gardens, in Kensington on 7 September 1901 following a cerebral haemorrhage. At his request his body was cremated. The ashes were buried at Highgate Cemetery. He was survived by his wife Charlotte (who died in 1914) and seven children. During his lifetime there had been bitter disagreement with his colleagues, and for some time after his death he was better known for the nasal speculum named after him and the removal of nasal polypi by electric cautery than for his research on the brain.

It was around 1930 that this work was rediscovered, contributing to further research. In 1931, mainly through the initiative of Professor Otto Rosenheim, a Civil List Pension was obtained for Thudichum's daughters.

The writer of this paper is a second cousin of Ludwig's children. Ludwig's daughter Charlotte (Lottie) born in 1862 was his God-mother. She had trained as a singer under Manuel Garcia (1805-1906), who pioneered the laryngoscope. She had played Rebecca in Sullivan's opera *Ivanhoe* which opened at the New English Opera House in Shaftesbury Avenue, London, in 1891. He remembers well the gratitude they felt to Professor Rosenheim who had been instrumental in obtaining a Civil List Pension for them, which they considered as recognition of their Father as a pioneer in science.

August Dupré (1835-1907)

An account of his life appears in the *Dictionary of National Biography*⁹. August Dupré was born on



A. Dupré

Figure 2. A Dupré (1835-1907)

6 September 1835 in Mainz where his father, Jacob Friedrich Dupré, was a wine merchant. His brother Friedrich Wilhelm (Fritz) was born on 7 October 1834 also in Mainz. His sister Charlotte, who became Ludwig Thudichum's wife, was born on 30 June 1828. Their mother, Jeanette née Schäfer, died 17 days after August's birth. Their father remarried in 1843 and went to England with his wife and family and worked at a foundry producing locomotives in Warrington. In 1845 he returned to Germany, and was a wine merchant in Giessen. Fritz and August went to school there and in 1850 proceeded to the Technical School in Darmstadt. In 1852 they studied chemistry under Liebig at the University of Giessen, and in 1854 spent a period at Heidelberg under Robert von Bunsen (1811-1899). In 1855 both Fritz and August obtained PhD degrees, August at the unusually young age of 20 years.

London

In the early 1850s their father, Jacob Friedrich, with his family including Charlotte, settled in London as a wine merchant, and Fritz and August followed in 1855 after completing their studies. Jacob Friedrich died in London in 1877.

In London, Fritz became a lecturer in chemistry at Westminster Hospital and his brother August became assistant to Dr Odling who had a laboratory in Kennington, and was later demonstrator in practical chemistry at Guy's Hospital Medical School, where August followed him. In 1864 August left Odling and succeeded Fritz as lecturer in chemistry and toxicology at Westminster Hospital, where he was also allowed a laboratory for his own use as consultant analytical chemist. His habit of wearing a hat at work and later a skull cap at home was put down to a draughty skylight in one of the laboratories.

Fritz married a British girl, Lucy Hake, and although naturalized a British subject, he left England in 1864 for Germany, to take up an appointment in

connection with the newly discovered salt mines in Stassfurt. His eldest son, Frederick, later became professor of chemistry at the Technical College in Köthen, Anhalt.

August was naturalized British in 1866, and unlike his brother Fritz considered England his own country. He kept close contact with his brother's family in Stassfurt and retained an affection for things German. He used to praise Germany to his English sons and praised England to his German nephews.

In 1875 he was elected FRS and in the same year became engaged to be married to Florrie Robberds, daughter of the Manchester agent of his father's wine business.

They married in March 1876: August was 41 and Florrie 24 years. They lived at 17 Pembroke Gardens, Kensington, near to the Thudichum family. He was fond of his Thudichum nieces and interested in the education of his two nephews. At the time of his marriage, the eldest niece was aged 21 and the youngest aged 8 years. He started his own family with a son, Henry, who was born in 1877.

August strongly approved of women studying medicine. In 1874 he was appointed Lecturer in Toxicology at the London School of Medicine for Women, and held the post until 1901. In 1897 he resigned from the appointment at Westminster Hospital and set up his own laboratory near Victoria Station, London. In 1898 he was joined by his son Fred, and in 1900 by his son Percy. The firm took the name: Dr A Dupré & Sons. He was of medium height and powerfully built. He had wide knowledge with remarkable memory insisting on accuracy, but had a retiring nature.

August Dupré's work

Laboratory and teaching connected with his Hospital posts. With H Wilson Hake, he wrote a short manual of chemistry published in 1886¹⁰.

Explosives. This involved identifying, classifying, assessing the safety, and devising tests to this end. He was first consulted on the explosives trade by the Home Office in 1871. The Explosives Act of 1875 followed. One dramatic aspect of his work was during the Fenian outrages of 1882-1883. (The Fenians were the predecessors of the IRA.) August Dupré and Major Majendie, Inspector of Explosives, went to a house in Birmingham, confirmed that a suspicious substance was in fact nitro-glycerine, and personally disposed of it.

Purity of water and sewage disposal. He was an acknowledged authority on this subject and was consulted by Governmental and other public bodies. His findings appeared in their relevant reports. For example, with others he advised on the condition of the Thames and gave evidence to the Royal Commission on Metropolitan sewage disposal (1882-1883)¹¹.

Toxicology. He was often a witness in the law courts in medico-legal cases.

Death of August Dupré and sequel

August Dupré died on 15 July 1907 in Sutton, Surrey, where he and his family had moved in 1882. His body was buried at All Saints Church, Sutton. His death was attributed to gallstones from which he had suffered for many years, but had refused surgery. About 16 years prior to his death he had had a slight paralytic stroke resulting in slightly indistinct speech and weakness of the left leg, necessitating help in

lifting it over stiles. He magnified these difficulties and they tended to make him unsociable and more excitable.

His twin sons Fred and Percy, born in 1879, who had already joined the firm Dr A Dupré & Sons, took over the business after his death. George Dupré Thudichum, Ludwig's elder son, worked for some years with his cousins and the firm was known as Dupré & Thudichum. During World War I, Fred and Percy worked for the Ministry of Munitions for which each received an MBE. In 1922 the Home Office transferred, to their own department, work previously carried out by the firm, and Fred and Percy were given posts at Woolwich Arsenal in compensation. There was some resentment because work done by the firm for the Government had ousted other work and, when taken away, left no choice other than acceptance of the appointments.

The Franco-Prussian War 1870

Ludwig Thudichum had advocated sending nitrous oxide as an anaesthetic for the soldiers wounded in the war. This provoked criticism which he resented¹². With John Simon he was active in setting up an International Base Hospital on the Rocusberg above Bingen on the Rhine. In the *British Medical Journal*¹³ there is reference to English surgeons sent out under leadership of Mr John Simon and Dr Thudichum as being actively engaged in their sanitary experiment. It mentions a visit by the Crown Princess of Prussia, when they were in attendance. The Hospital consisted of 20 tents with eight beds arranged in two rows with the operating room in the centre. Water was pumped from the Rhine and dry earth closets were used. The cases were determined by the possibility of transport from the front. Friend and foe were described as lying together having forgotten any enmity if ever it had existed.

Ludwig Thudichum presented a paper on his war experiences to the Medical Society of London¹⁴. He described and showed some of the weapons with reference to the type of injury inflicted. Most of the cases he encountered were injuries requiring operative interference. As a wound dressing he preferred phenylised lint to oakum. Typhoid and dysentery were rife. According to Dupré family tradition August Dupré was involved with his brother-in-law in the setting up of this Hospital on the Rocusberg, possibly in connection with sanitation. Surgical instruments used there were passed to a grandson of August Dupré.

Wine and food

Both Ludwig Thudichum and August Dupré had made a study of vine and wine and together produced a treatise on the subject which was published in 1872¹⁵. It is an extensive account embracing the history, chemistry and details of wine producing areas including America and Australia. Thudichum had given a paper on the same subject at the Society of Arts in 1869 and Dupré had contributed to the discussion¹⁶.

In 1873 Thudichum gave the Society of Arts Cantor Lectures on wine¹⁷. Both had a suitable background for development of an interest in wine. August's father was a wine merchant, and Ludwig himself had been appreciative of good wine and song, also good food on which subject he also wrote.

One such work dated 1895¹⁸ began by outlining the purpose of cookery, history of culinary literature,

culinary requisites, and processes. There are erudite allusions and care is taken to define terms, for example

A sandwich consists of at least two equal slices of either white or brown bread, an eighth of an inch in thickness, and butter, with some meat such as ham, tongue, boiled or roast beef, mutton, poultry or game, or a savoury preparation thereof placed between them in such a manner that the buttered side of each slice is inside and turned towards the meat.

Overall reference has been made to Professor McIlwain's paper presented to the Royal Society of Medicine in 1957¹⁹, Professor Drabkin's book on Thudichum²⁰ and to The Dupre Family Book by Brian Dupré, a grandson of August Dupré²¹. It is important to mention the Thudichum Lectures given in his honour under the patronage of the Biochemical Society. The first was given in 1974 by Professor Blaschko²² and the second by Professor McIlwain in 1975²³. These lectures are given by recipients of the Thudichum Medal. Subsequent lectures were given by the following:

- 1976 Dr Marthe Vogt
- 1980 Sir Hans Kosterlitz
- 1983 Dr Victor P Whittaker
- 1986 Professor R Levi-Montalcini
- 1989 Dr Julius Axelrod

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